REMARKS

Claims 1-25, 29-42, 44 and 45 are rejected. Claims 26-28 and 43 are withdrawn from consideration. Claims 1, 5, 9, 18 and 41 have been amended. Claims 3, 4, 5, 10, 44, and 45 have been canceled. Claims 1, 2, 6-9, 11-25, 29-42 are presently pending in the application. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

The basis for the support amendment support is found on pg.12, line and pg. 18, line 16 – pg. 19, line 14 of the specification as originally filed. The basis for the remaining amendments to claim 1 is found in claims 3 and 4 as originally filed, as well as Table 4 on pg. 25 of the specification as originally filed. The amendements of claims 5, 9, 18, and 41 are these same claims as originally filed modified with respect to dependency.

Double Patenting:

The Examiner has rejected Claims 1, 3, 4, 12-14 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 1-9 of U.S. Patent No. 6,528,147. The Examiner also indicates that, although Applicants' previous response stated that a terminal disclaimer directed to these patents was included, none was found in the file. In a response mailed Feb. 19, 2004, the applicants included 3 terminal disclaimers, 2 of which relate to U.S. Patent No. 6,528,147 and 6,475,602. Evidence of receipt of the disclaimers is provided by the attached copy of a postcard, returned by the Office, bearing an OIPE stamp dated Feb 23, 2004. Copies of the 3 terminal disclaimers are also attached to expedite matters. Therefore, the Applicants request that the Examiner withdraw the rejection.The Applicants have attached

Rejection Of Claims 1-25, 29-42, 44 and 45 Under 35 U.S.C. §103(a):

The Examiner has rejected Claims 1-25, 29-42, 44 and 45 under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]137432) for reasons of record and for reasons given below. The Applicants traverse and repeat the previously made arguments applicable to the reasons of record as well as respond to the Examiner's reasons given below.

Maeda relates to an ink absorbing layer comprising hollow crosslinked particles in a binder on the surface of a support. Maeda fails to

mention the use of porous polyester particles having a mean diameter less than 0.5 microns, and in which more than 68% of of these small particles have diameters smaller than 0.5 micrometers.

The present invention relates to porous polyester particles of less than 0.5 micrometers in diameter. These particles, when used in coatings provide enhancements in the gloss of the coating.

To establish a prima facia case of obviousness requires, first, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.

Maeda fails to mention the use of particles of mean diameter less than 0.5 micrometers and fails to mention the use of these particles to enhance the gloss of a coated layer. In fact, the particle size range of the particles of Maeda range from 0.5-100 micrometers and Maeda teaches that, if the particle size is too small, the particles become difficult to handle in a coating material. See paragraph [0006] of Maeda. Maeda also fails to produce a reasonable expectation of success, as Maeda fails to mention that particles of size less than 0.5 micrometers prove useful in providing a coating with increased gloss (paragraph [0026] of Maeda) and also teaches that these particles are difficult to handle in coating materials (see paragraph [0006]). Finally, Maeda fails to teach all of the limitations of the present claims as it fails to teach or disclose the use of particles of less than 0.5 micrometers. Maeda fails to mention that in a distribution of particles of mean diameter less than 0.5 microns, more than 68% have a particle size of less than 0.5 microns to produce high gloss coatings. See paragraph [0006], [0020], and[0021] of Maeda. As a result, Maeda fails to support a prima facia case of obviousness under 35 U.S.C. 103(a).

Even assuming such a case is made, the reference to Maeda teaches away from the present invention by indicating in [0006] that smaller particles are difficult to handle as coating additives. In addition, the present invention provides a surprising result of increased gloss when the particles are used as an additive in a coating, as illustrated by Elements 1, 2, and 5 in Table 5 on page 26 of the specification, at proportions of 68% or greater. See also Maeda

[0024] which states that "If the average particle size of the hollow porous resin particles that form the absorbing layer is smaller than 1 μm, there is almost no absorbing affect. Data Table 5 on pg. 28 of the present specification indicates the opposite, in fact, as the coatings containing particle of less than mean particle diameter of 0.5 had a shorter ink dry time, which is related to absorbency, than the control (particle size of 1-3 microns).

The following Table has been prepared to further clarify the results obtainable with the inventive particles as discussed in detail in the Third Declaration of Landry-Coltrain.

Table 12

	%total particles having diameter less than 0.5 microns	60° gloss
PE-1	68%	23, 30
PE-2	More than 68%	65, 48
PE-3	Less than 38%	3
PE-4	Less than 51%	10

The Table indicates that at least a 4 fold increase in 60° gloss is achieved when more than 68% of the particles have a particle diameter of less than 0.5 microns. If larger particles are present, by subtraction, they would account for no more than 32% of the particles. The Examiner states that "The mere fact that Maeda et al. does not discuss gloss does not overcome the rejection. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See Ex parte Obiaya, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985)." However, according to Maeda, not only are the particles greater than 0.5 in mean diameter, but the particles of this size occupy more than 70 weight % of the total. See Maeda, paragraph [0006]. The present claims are limited at least 58% of particles with a diameter of less than 0.5 microns.

The Examiner indicates that reference discloses an ink jet recording paper having an ink absorbing layer coated on a support, the ink absorbing layer (the top most layer) containing porous polyester resin particles ([0005] - indicates appropriate paragraph of prior art translation supplied by. The Examiner states that, since the support may be paper which would be ink absorbent, the support may considered to be an ink receiving layer. The Applicants have amended the claims to specifically indicate a support separate from the receiving layers. In addition, it is known by those of skill in the art that supports do not function as ink receiving layers in inkjet recording elements, as evidence by US Pat. No. 5,750,200, col. 5, lines 19-24 state that, "when the support is composed mainly of wood pulp, diffusion of ink along the sides of the pulp fibers causes feathering, penetration of ink to the back of the recording sheet causes striking-through, and the printed image density is decreased. In addition, the desired gloss can not be attained.", which indicates that absorption of ink by the support does not produce the known, functional characteristics of an ink recording layer.

The Examiner also indicates that the support may include inorganic or organic fillers and sizing agents, the reference discloses that sizing agents include polyvinyl alcohol, the reference discloses use of underlayers or specialty supports in order to obtain a smooth surface, and, normally, smoothness and gloss are related characteristics and it is also well known in the art to form or treat the ink receiving layer in a way that maximizes gloss when a glossy surface is desired, for example, it is well known to calendar the surface of the medium to increase gloss. The Examiner indicates that it would have been obvious to one of ordinary skill in the art to treat the surface of the medium of the reference in order to obtain a desired level of gloss. While it might be true that there are a variety of methods for controlling gloss, the utility of the present application relies on the use of porous polyester particles of diameter less than 0.5 micrometers to improve gloss and there is no showing that the use of particles of diameter less than 0.5 micrometers are known to improve the glossiness of coatings.

The Examiner indicates, for claim 2 and claims dependent therefrom that require a layer other than the topmost layer to include porous polyester particles, the examiner is unable to structurally distinguish a "single" layer from a topmost layer and an under layer when the layers may have the same

composition (as is the case with the instant claims), because in this art the term layer is frequently used by those of ordinary skill in the art to refer to one or more layers, and because a layer may be coated in several coating steps in order to achieve desired layer thickness. The Applicants respectfully disagree. There is ample support for the use of the term "layer" as used in the present application. The present application specifies that

> "The ink receiving element utilized in the invention contains at least two individual ink receiving layers. Each layer being comprised of a different composition, combination of particles with differing chemical nature and different mean diameters, and layer thickness. For these multilayer structures, the terms as used herein, "top", "upper", and "above" mean the layer that is farther from the support in relation to the relative positioning with respect to the other layers. The terms "bottom" "lower" and "below" mean the layer that is closer to the support in relation to the relative positioning with respect to the other layers. The term "topmost" means the layer that is the farthest from the support relative to all other layers." (pg. 10, lines 12-21)

Various dictionaries define the term layer as follows: (1) single thickness of usually some homogeneous substance or a relatively thin sheetlike expanse or region lying over or under another. (OneLook Dictionary); (2) a sheet or thickness of material, typically one of several, covering a surface (Oxford English); (3) a single thickness of a material covering a surface or forming an overlying part or segment: *a layer of dust on the windowsill; a cake with four layers* or a usually horizontal deposit or expanse; a stratum: *layers of sedimentary rock; a layer of warm air.* (The American Heritage® Dictionary of the English Language: Fourth Edition.2000.)

The term "layer" used by those of ordinary skill in the art is consistant with this definition. US Pat. No 6,824,841 contains the following section:

> "An improved ink jet recording material is disclosed. It comprises on the front side of a subbed polyester at least two ink-receiving layers based on polyvinyl alcohol with a top layer containing a

> cationic mordant, and on the back side a double layer one of which contains an electronically conductive polymer. (Abstract)

This section indicates that top layers, two ink-receiving layers and double layers are terms commonly used by those of skill in the art and are considered distinguishable. When one of ordinary skill refers to a layer with more than one part, an adjective is associated with the term layer and, as a result, the parts are given different names to distinguish, such as "layer pack", "subbing layer", "second backing layer", "united ink-receiving layer", and the like, as evidenced by US Pat. No. 6,824,841,

> "layer pack (A) of at least two ink-receiving layers comprising a polyvinyl alcohol binder whereby the top layer of said pack further comprises a cationic mordant and a spacing agent, and on the back side of said support a double layer pack (B') comprising, in order, a latex subbing layer and a second backing layer containing an electronically conductive polymer and a spacing agent." (col. 3, lines 50-60)

and US Pat. No. 6,180,219

> "1. An ink jet recording material produced by preparing a material (i) for transfer use comprising a support coated with a first ink receiving layer comprising a porous inorganic composition and a resin component and a material (ii) which has a second ink receiving layer coated on at least one side of a substrate, bonding the first ink receiving layer of the material (i) to the second ink receiving layer of the material (ii) in tight contact by the use of an adhesive to form a united ink receiving layer, wherein the united ink receiving layer comprises at least two ink receiving layers....." (Claims)

There is also evidence that those of ordinary skill in the art commonly refer to layers that may have the same composition and still are considered distinguishable, as illustrate by US Pat. No. 6,592,953,

> "The ink-receiving layer of the present invention is preferably coated on one side of the support as a plurality of at least two distinct layers, coated from different coating solutions. Most preferably, the ink- receiving layer of the present invention is

coated on one side of the support as a plurality of three distinct layers, coated from different coating solutions. When the ink jet receiving sheet of the present invention contains at least two ink receiving layers coated on one side of the support, at least one of said ink receiving layers contains the copolymer consisting of at least one N-vinylpyrrolidone monomer or derivatives thereof and at least one monomer selected within the group of N-vinylcaprolactam, N-vinylpiperidone monomer or their derivatives. Preferably, all said ink receiving layers contain said copolymer, in the same or in different amounts. The ink jet receiving layer of the present invention can also contain at least an ink receiving layer coated on both sides of the support; in that case, at least one of said receiving layers contains the copolymer cited above." (col.11, lines 23-40),

US Pat No. 6,811,839,

"When at least two ink-receiving layers are provided, the content of the hindered amine compound is preferably within the above range in the uppermost layer, or within a range of from 0.01 to 10 g/m (2)in the whole recording medium." (col. 9, lines 30-40),

and US Pat. No. 6,753,051,

"When the ink recording element comprises more than one ink receiving layer capable of accepting an image, the wrinkled particles may be present in any receiving layer. When the wrinkled particles are in the topmost layer, it is preferable that the wrinkled particles have a mean diameter range between 0.1 and less than 0.5 micrometers....." (col. 10, lines 42-50).

This evidence indicates that the term "layer" is used to mean a thickness or region of some substance lying over or under another by those of ordinary skill in the art and is not used generically to describe a series of parts or layers. When a layer has a series of parts, terminology indicating sub-parts or combination into a overall part is present. The Examiner is respectfully requested to cite art indicating that the term layer is frequently used by those of ordinary skill in the art to refer to one or more layers, and because a layer may be coated in several coating steps in order to achieve desired layer thickness or withdraw the rejection.

The Examiner states that the results in the specification are for one specific material rather than the broad category of polyesters that is now claimed. Attached Second Declaration of Landry-Coltrain contains evidence of the functionality of the present invention utilizing other materials in the broad category of polyesters presently claimed.

The Examiner states that the a different technique was used to emulsify the comparisons (see Table 3). The attached Second Declaration of Leon describes the reason for differing techniques, that is, that these techniques are necessary to produce different particle sizes. The Applicants have included the Second Declaration of Leon to describe the validity of comparing the particles made by different technique and have amended the claims to require a certain amount of particles and a bimodal distribution as appropriate.

Rejection of Claims 1-17, 19-25, 34, 35, 38, 44 and 45 Under 35 U.S.C. §102(b):

The Examiner has rejected Claims 1-17, 19-25, 34, 35, 38, 44 and 45 under 35 U.S.C. 102(b) as being anticipated by Okumura et al. (5,360,780), indicating that Okumura discloses an image-receiving sheet for thermal transfer printing comprising an intermediate layer and an image receiving layer, the intermediate layer contains thermoplastic resin fine particle aggregates some of which are polyester and may contain a sulfonic acid group, the aggregates may also be present in the imagereceiving layer, the particle aggregates are in the size range of 0.2 to 20 microns, the particles are coated with binder which may be polyvinyl alcohol, and although the reference broadly discloses the use of polyester binder but does not specifically disclose inclusion of a sulfonated polyester binder, it would have been obvious to one of ordinary skill in the art to use any conventional binder material in the absence of a showing of unexpected results.

Okumura discloses an image-receiving sheet for thermal transfer printing comprising a substrate and an image-receiving layer disposed on said substrate, characterized in that said image-receiving layer contains thermoplastic resin fine particle aggregates.

A claim is anticipated under 102(a) only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631,

2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The present invention claims an inkjet recording element comprising a support having thereon an ink receiving layer capable of accepting an inkjet image. Okumura fails to mention inkjet recording elements or ink receiving layers capable of accepting inkjet images, teaching instead thermal transfer printing elements. Therefore, the rejection should be withdrawn.

Rejection Of Claims 1-17,19-25, 33-39, 41, 42, 44 and 45 Under 35 U.S.C. §103(a):

Claims 1-17,19-25, 33-39, 41, 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (5360780) for reasons set forth above and for the following reasons. With respect to percentages of particles in the layers, the reference discloses at col. 9, lines 42-49, preferred ratios of binder to thermoplastic resin fine particles of 0.01 to 200%. Since these would normally be the main components in the coating layer, it would have been obvious to one of ordinary skill in the art to include a high percentage of particles as recited by claims 36 and 37. With respect to the claims directed to two layers including particles, the particles of the reference may be present in the intermediate and ink-receiving layers and particles with mean diameters above and below 0.5 microns are inherently present in the particles if the average particle size is near 0.5 microns. It would have been obvious to one of ordinary skill in the art, with the guidance set forth in the reference, to determine coating thicknesses in order to obtain desired ink absorption properties and coating characteristics. Support materials are set forth at col. 13, lines 59-64.

Okumura discloses an image-receiving sheet for thermal transfer printing comprising a substrate and an image-receiving layer disposed on said substrate, characterized in that said image-receiving layer contains thermoplastic resin fine particle aggregates.

The present invention relates to porous polyester particles of less than 0.5 micrometers in diameter. These particles, when used in coatings provide enhancements in the gloss of the coating.

To establish a prima facia case of obviousness requires, first, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.

Okumura fails to mention the use of a distribution of particles of mean diameter less than 0.5 micrometers of which 68% of the particles have a diameter of less than 0.5 microns and fails to mention the use of these particles to enhance the gloss of a coated inkjet layer. In fact, Okumura teaches use of particles in a thermal transfer receiving sheet. Okumura also fails to produce a reasonable expectation of success, as Okumura fails to mention that particles of size less than 0.5 micrometers prove useful in increasing gloss or providing an inkjet coating with increased gloss. It would not be obvious to one of ordinary skill in the art would recognize that the materials useful in thermal transfer receiving layers would function properly in inkjet layers, let alone improve the gloss. Finally, Okumura fails to teach all of the limitations of the present claims as it fails to teach or disclose the use of particles of less than 0.5 micrometers and fails to mention that in a distribution of particles of mean diameter less than 0.5 microns, more than 68% have a particle size of less than 0.5 microns to produce high gloss coatings. As a result, Okumura fails to support a prima facia case of obviousness under 35 U.S.C. 103(a).

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,

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